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Retrospect on the Veterinary Art*

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Virgil, who asked the young men what it was that tempted them to venture into unknown paths, was at the same time not likely to forget that all paths are new to youth. The young men may claim that they have been compelled to follow the new paths because the beaten track is crowded. It is only comparatively recently that pathology has been introduced into the veterinary curriculum, although Brother Bernardo, writing in the thirteenth century, emphasised its importance for the practitioner in diseases of animals, and Thomas Prosser, writing about 1790, states that a knowledge of comparative pathology may help to an understanding of the diseases of man and animals. Thus he urges that if one can discover why horses do not suffer from ague while man does, he may be able to find out the cause of that condition. The history of veterinary medicine is touched upon in connection with the study of the scheduled diseases as a part of the course for the Diploma in Veterinary State Medicine; here students are required to know the chief facts in the history of the epizoötic diseases in Great Britain.

That such knowledge will not be confined in the future to these students is indicated by the following sentence from the pen of the late Major-General Sir Frederick Smith:[1] "In future it will be expected of veterinary practitioners that they shall know something of the origin and development of their profession and of the men who contributed most to its advancement," and here is a more modern plea: "Another point I would make is the desirability of fostering a little romance in anatomy by retaining the names of the great high priests and telling students something of them and their work." (Rogers[2])

To that plea we can make an immediate response. William Sewell, who was born in 1781 and who died in 1853, discovered in 1803 the central canal of the spinal cord: the announcement of his discovery was communicated to the Royal Society in 1808 and was published in the *Philosophical Transactions* for 1809. When we think of the central canal of the spinal cord we may remember that it was discovered by a veterinary surgeon and we may justly speak of it as "Sewell's Canal."

Readers of Tennyson's "Locksley Hall" will recall how the hero of that poem found himself after a lapse of years back again among the scenes of his boyhood, when he wandered about the beach:—

> ". . . nourishing a youth sublime
> With the fairy tales of science and the long result of Time;
> When the centuries behind me like a fruitful land reposed;
> When I clung to all the present for the promise that it closed:
> When I dipt into the future . . ."

It is a significant thing, but we can only see into the future by looking back into the past.

The practical use of the past is to aid the present to provide for the future. Accepting, then, the poet's simile that the centuries behind us are spread out like a fruitful land, the exploration of which may be profitable, let us make an incursion into that land in search of such fruits as we can gather in the time at our disposal.

While still a student there came into the possession of the present writer a copy of Blaine's "Outlines of the Veterinary Art," originally published in 1802, but the copy in the writer's possession is that of the much improved sixth edition revised by Edward Mayhew and published in 1854. The book contains, to quote Smith, "the earliest record in the English language of the origin and growth of veterinary literature."

Under such guidance, then, the present writer has explored to some extent the fruitful land of the records of the bygone years and has brought back several impressions. In the first place the veterinary art is very old. In the second place the diseases which puzzled our forefathers are very similar to those which perplex us to-day, although diseases which to-day we can separate were then often confused; thus almost every severe disease, especially if characterised by marked symptoms or external lesions (*post-mortem* examinations were not commonly made), was diagnosed as "malleus."

Apsyrtus, to whom we shall refer later, collects under the term "melis" a variety of diseases; while Aristotle described under this term a disease which recalls acute glanders in the ass. "Murrain" again was an inclusive term under which a number of diseases, especially of cattle, were included.

Thirdly, one is impressed by the heavy mists of ignorance—to continue the figure—which hung over everything to do with the diseases of animals. So great was the ignorance that natural structures were regarded as evidence of disease and treatment was directed to their removal; thus, according to Smith, the ducts of the sublingual gland were so regarded and under the name of "barbs" their removal was practised for centuries; even as late as 1785 it was recommended that they be cut off. Smith speaks of the barbs as the ducts of the sublingual glands, but M'Fadyean[3] uses the term in connection with the ducts of the submaxillary (mandibular) glands. "Wharton's duct—the duct of the submaxillary gland—discharges itself by a minute opening on the summit of the barb."

The natural bars of the palate, if slightly swollen, were also subject to similar misrepresentation and supposed to be inflamed. The name "lampas" was given to the condition and treatment was to burn the palate with a hot iron; Percivall rightly condemns the operation. Mayhew, perhaps to excite aversion, figures the operation in progress. Bartlet tells us in 1753 that we are obliged to La Fosse for getting rid of the imaginary disease "lampas"; but my colleague, Professor Boddie, tells me that even so late as about 1926 he was called to attend to the mouth of a horse which had been burnt for "lampas" by a local farrier.

The removal of the membrana nictitans, or "haw," as it was called, was practised commonly in bygone days.

Mayhew's edition of Blaine's "Outlines" contains the following sentence: "To an acquaintance with the anatomy of the eye it is that we no longer attribute ophthalmia to an enlargement of the 'haw.' This knowledge has prevented us from cruelly depriving the horse of a necessary organ, as a remedy for an imaginary disease."

An illustration from an old book in the writer's possession shows us how "to know the anticor or palpitation of the heart," by means of a small swelling (is it intended to indicate oedema?) sketched under the sternum, while another, by means of a small slit in the pectoral region, just where the forelimbs join the body, indicates what is called the site of "operation for the anticor." Although this term "anticor" is frequently used by the older writers, the descriptions of the condition implied are so vague as to render identification difficult, if not impracticable; the old diagram with its reference to palpitation of the heart may throw some light upon the subject.

It is recorded that one, Vinziano of Guglia, in the fourteenth century, used to treat lameness by deliberately injuring the other foot in an attempt to make the action even, but much later than that, under the heading "Beaning, Diamonding, etc." we may read in a very informative article by McSwiney,[4] an exposure of the methods for making horses which are lame, move with a relatively even action by deliberately injuring the opposite foot, the poor animal being further encouraged to exhibit liveliness by being thrashed into a state of nervous excitability.

From time to time gleams of light penetrated through these mists of ignorance; thus Xenophon on the subject of training horses counsels patience, warning us that "Anger is the companion of repentance," as many centuries later Bracey Clark was manly enough to admit (Smith, vol. 3, p. 42): One day he was riding into Hyde Park; his horse shied. Immediately he struck the animal on the head with his riding whip; the horse fell, breaking both knees so badly that it had to be destroyed. Bracey Clark admits his act, and, as he expressed it, "hopes by a further exposure of his folly, in some degree to expiate his offence."

Pliny the elder recommended the liver of a mad dog as a cure for hydrophobia, and according to Shoshan[5] the Talmud states that "The cure for hydrophobia is the eating of a part of the dog's diaphragm," and Pasteur, centuries later, successfully used the spinal cords of infected rabbits for prophylactic purposes. According to Glanville, to whom we shall refer again, Pliny describes a worm under the hound's tongue "that maketh the hound wood" (mad), "and if the worm is taken out of the tongue, then the evil ceaseth"—did he realise that the saliva of the rabid dog is infective?

In a manuscript assigned to the reign of Edward I, 1272–1307, it is said an order existed that no animal dying on the farm was to have its skin removed until seen by some responsible person, but

* Address (abridged) delivered at the opening of the Session, October, 1943.

Virgil,[6] 70 B.C., warned his readers of the dangers associated with handling the hides of cattle dead of disease: "their hides could not be used . . . they could not even shear the fleece . . . further, were any to make trial of such hateful clothing, burning pustules and foul moisture would run along his noisome limbs nor would he have long to wait before the accursed fire was devouring his infected frame"; a description which recalls anthrax and the malignant pustule in man. Again, Virgil (*loc. cit.*, p. 46) tells us that "if the priest had slain a victim . . . the knives which had been put to its throat were scarce stained with blood and but the surface of the sand was dyed by the thin gore"; a description which suggests that the animals were suffering from poverty of blood associated with "liver-rot" or "pipey-liver," as, in its later stages, it is popularly called. Apsyrtus appears to have flourished about A.D. 340. He referred to acute laminitis as "the barley disease," as though he associated it with the diet, and he also recognised that tetanus might follow a punctured wound of the foot.

St. Hildegard, who lived between 1098 aud 1179, spent part of her life as an abbess of a convent near Bingen, and among her other activities wrote a book in which, when dealing with epizoötic diseases, she advises her readers to "place scrapings of the same animal in water and give it to those affected for nine days, by which time the plague would leave them," a method of treatment which, although on first consideration destined to spread the infection, was also surely a striking anticipation of some modern methods of immunisation; while Blondet, of Montpellier, writing nearly 600 years later, in connection with cattle plague, refers to the theory of Valisnieri, the Italian, that cattle plague was due to a multitude of little worms, which entered the body where they met with hostility from the small worms usually present in the bodies of cattle, that these take measures to repel the invading worms, but the invaders prevail and so the animal dies. This, as Smith points out, is a remarkable anticipation of phagocytosis. Albert the Great, of Cologne, who lived between 1206 and 1280, was the first veterinary writer systematically to consider the question of infection and to describe the methods by which infection may spread; thus he speaks of inoculation by bites or other injuries; contact with diseased animals; and he considers inhalation to play an important, even the most important, part. He appears to have realised that glanders and farcy are contagious, and applied the term scabies to mange some 400 years before Ambrose Paré referred to little creatures hidden under the skin and causing itchiness, and advised their extraction by means of pins or needles, and more than 500 years before Renucci gave a convincing demonstration of the parasite from a lesion in a patient at the St. Louis Hospital, Paris. Renucci imitated the method employed at that time by the Corsican peasant women and extracted the parasite from a scab by means of a needle. (Neumann[7].) Smith tells us that Samuel Drinkwater was the first farrier to have adopted the view that mange was due to "small insects," although the information had been available for a relatively long time, but as usual ignorance and prejudice had withstood knowledge.

Sir Walter de Henley, writing some time during the thirteenth century, advises a husbandman who had any sick beasts to lay out money to better them, quoting the proverb "Blessed is the penny that saves two."

Sir John Sinclair, who was instrumental in bringing about the formation of the Board of Agriculture in 1793, suggested in 1802 that public encouragement be given to investigation into the diseases of cattle, asking pertinently, "Is it possible for the public money to be better bestowed"? And this finds an echo in an issue of the *Farmers' Weekly*.[8]

J. Fitzherbert produced about 1523 "The Book of Husbandrie," which, as Smith says, "had a great reputation for centuries." On the subject of liver-rot in sheep, Fitzherbert is illuminating; he tells us that flooded land, spearwort, penny-grass and mildewed grass are all bad for sheep, but he also makes the striking statement that "white snails be ill for sheep in pastures and in fallows," thereby associating, as Smith points out, the snail with liver-rot in sheep some 360 years before it was proved to be an essential factor in the spread of distomiasis. Are we overlooking any such observations to-day?

Christopher Clifford published in 1585 "The School of Horsemanship," and therein records how his horse was seized with laminitis while on the march; the animal was apparently sound on starting, but developed symptoms of the disease at the first halt. "I did surely persuade myself, as ignorant men do in sudden and unknown calamities, that surely my horse was bewitched," and in those times he would have no difficulty in getting public opinion to support him. So far the story is commonplace, but Clifford, by his attitude to the circumstances, showed himself no ordinary man, for he blamed himself for his superstition and brought his common sense to bear upon the case, adopting the attitude of mind expressed many years later: "Let no persuasion tempt one to disbelieve the evidence of our own senses" (McSwiney, *loc. cit.*, p. 122).

Bartholomew Glanville, writing about the middle of the thirteenth century, gives us a description of the appearance and behaviour of the rabid dog, which, as Smith says, is still unsurpassed—certainly it should be noted by every student.

Consider also what Glanville says (Smith, Vol. 1, p. 86) with regard to the effects of the bite: "The biting of the wood hound is deadly and venomous and such venom is perilous, for it is long hidden and unknown and increaseth and multiplieth itself and is sometimes unknown to the year end, and then at the same day and hour it cometh to the head and breedeth frenzy; against the biting of a wood hound wise men and ready used to make the wound bleed with fire or with iron that the venom may come out with blood that floweth out of the wound." Yet while Glanville knew and wrote of these things in the thirteenth century, we had to wait some 600 years before rabies was made notifiable in this country.

Dr. Samuel Argent Bardsley, who lived from 1764 to 1851, published in 1807 "Medical Reports of Cases," containing "An enquiry into the origin of Canine Madness." There he states his views: (1) That rabies is only propagated by inoculation. (2) That the disease could be eradicated from Great Britain by "establishing an universal quarantine for dogs within the Kingdom and a total prohibition of these animals during the existence of such quarantine." (3) That two months' quarantine would be long enough. (4) That the medical profession should obtain the necessary legislation. Bardsley died in 1851, his recommendation unheeded. Blaine in 1810 wrote, "No dog breeds madness; no dog has rabies but such as have been bitten; nothing short of the actual bite of another dog in the same state can produce it."

Dr. Thomas Watson[9], writing on hydrophobia, about 1836, says, "According to Mr. Youatt, the disease is principally propagated by the fighting dog in towns, and by the cur or lurcher in the country. . . . He maintains that if a well enforced quarantine could be established and every dog in the kingdom confined separately for seven months, the disease might be extirpated. This opinion is founded, of course, upon the belief that rabies never originates at present, any more than smallpox does, spontaneously, but it is always propagated by the specific virus. . . . I believe that Mr. Youatt's opinion, already mentioned, of the cause of rabies in dogs, and in all creatures, *viz.*, that it always results from the introduction of a specific virus into the system—I believe this opinion is not commonly entertained. . . . If you are desirous of knowing what my own opinion on this matter is, I must say that I think Mr. Youatt's doctrine by far the most probable one; that rabies never occurs except from inoculation of the specific virus. . . . I have great respect for Mr. Youatt." The present writer was interested to discover this reference to Youatt, which shows that the respect in which he was held was not confined to the veterinary profession.

Such were some of the gleams of light which penetrated, fitfully, the gloom of the bygone years; to-day we realise how near some of the older workers came to the truth and yet missed it, or even reached it and did not, or would not, recognise it.

Jeremiah Bridges published in 1751 an essay on the anatomy of the foot of the horse under the title "No Foot: No Horse," and Smith says Bridges was the first Englishman to describe fully the anatomy of the horse's foot. We shall refer again to Bridges. It has been said that, "No matter how imposing your horse may be above the fetlocks, if he be unsound below them he may make good butcher's meat, but he is good for little else."

Listen to what the late Professor Varnell, of London, said, "Some may think it not worth while to record (what they have seen) but the day may come when some earnest worker in the field of scientific research will be ransacking the records of the past for material to confirm or otherwise that which may take place in his day. . . . Let it not be said that we of the present generation are neglecting the opportunities of doing something for the benefit of those who may follow us." (Smith, Vol. 4, p.127.)

About the year 1842 the son of a farmer in Cheshire was much troubled by a disease of cattle which was widespread in the county and which had attacked his father's stock. The disease was bovine pleuro-pneumonia and he was the first to give it this name. He made *post-mortem* examinations and wrote out a careful description of what he saw and sent the report to *The Veterinarian*. The same year he joined Dick's College at Edinburgh and duly graduated as the most distinguished student of his year. If you go into the museum of this college you will see his microscope—the first instrument of its kind to be used in the college; as you come out you will see immediately on your left a photograph of the man himself—John Barlow (1815–1856)—whose death at the age of 40 years deprived the veterinary profession of one of its most promising members. He was buried in the Quaker's burying ground, Edinburgh, the rediscovery of which fact we owe to the labours of my esteemed colleague Professor Russell Greig.

Years ago the present writer was making a *post-mortem* examination of a horse in the quadrangle of the old college in Clyde Street. He found among other lesions numerous livid patches of haemorrhage on the mucous membranes, etc. He did not need to seek a name for the condition, since that had been done for him already; it had been called "purpura haemorrhagica" more than 50 years before, by William Dick, the founder of this College.

"When I clung to all the present for the promise that it closed." Now what have we brought back from this fruitful land of the bygone centuries? Emerson has a word here: "I have no expectation that any man will read history aright, who thinks that what was done in a remote age, by men whose names have resounded far, has any deeper sense than what he is doing to-day."

What lessons, then, can be drawn from this brief survey of the past? First, I think we should acquire a respect for, and feel gratitude towards those men who, labouring under difficulties we can scarcely realise, did their best to place the veterinary art on a sound foundation upon which men of succeeding generations might build with confidence.

Secondly, the paramount importance of going back to nature in order to study the animal body in health as well as in disease; diligent discriminating work in the dissection and *post-mortem* rooms; close observance of every symptom, however apparently slight and unimportant, exhibited by animals in the clinical wards, remembering that text-book descriptions, even dictated notes, are necessarily general in character and no case exhibits all the symptoms described or manifests them as detailed; as Haycock insisted, the study of case records is in this respect invaluable. Every sick animal is an individual case; not simply a living illustration to a text-book. Thought is required always! Let us listen to the voice of Jeremiah Bridges, speaking across the years: "A man of understanding in his profession who can read the eyes and feel the pulse, will form a right judgment of the disorder which attacks the animal by the indications and symptoms of the distemper which discover themselves; and this knowledge proceeds on a surer foundation and more certain conclusions may be drawn from it, than from asking a thousand questions, for reports may be false and mislead us. Look into nature which is the surest guide and never deceives you. . . . In our practice there is no splitting of hairs, something effectual must be done . . . ." (Smith, Vol. 2, p. 64.)

Whenever possible let us follow up our fatal cases with a *post-mortem* examination. It has been said that a successful practitioner can learn little from *post-mortem* examinations because he so seldom has to make one; but most of us can learn much therefrom and by comparing symptoms with lesions, educate ourselves, improve our powers of diagnosis and so make ourselves of more value to our clients and of more use to the animals under our care.

Thirdly, to maintain an open mind towards the opinions and traditions of the past, and while maintaining a due respect for authority, let us recall Clifford on the march with his foundered horse and bring received opinion to the test of our experience and intelligence; let us resolve with Oliver Wendell Holmes "Not to take authority when I can have facts, not to guess when I can know."

Fourthly, that when we have reached the final year and even more so when we are qualified, we may derive considerable benefit from the reading of old books and journals because we read them in a critical, appraising, though not necessarily in an unappreciative mood; we gain an insight into other men's methods, lines of thought, come to understand somewhat why they succeeded here or failed there, how the truth was almost within their grasp while yet it eluded them: in short, such reading is invaluable; it gives us a new interest in our work and a new capacity to deal with our problems by stimulating original thought, and by developing the attitude of mind of the investigator.

References

[1] Smith, F. (1924.) "Early Hist. Vet. Lit." Vol. II, p. 8. Baillière, Tindall & Cox, London.
[2] Rogers, L. (1942.) *Brit. med. J.*, p. 394.
[3] M'Fadyean, J. (1902.) "The Anatomy of the Horse"; p. 212. W. and A. K. Johnston, Edinburgh.
[4] McSwiney, E. (1908.) "A Few of the Impositions and Devices . . . . to Deceive." *Vet. J.*, p. 114.
[5] Shoshan, A. (1927.) "Ancient Veterinary Practice." *Vet. Rec.*, p. 345.
[6] Virgil. Georgics. Shipman and Nesbitt. Bk. III, p. 49. Univ. Tutor. Press, Ltd., London.
[7] Neumann, L. G. (1905.) "A Treatise on the Parasites and Parasitic Diseases of the Domesticated Animals." 2nd edn.; p. 106 *et seq.* Baillière, Tindall & Cox, London.
[8] *Vet. Rec.* (1942.) p. 114.
[9] Watson, T. (1843.) "Lectures on the Principles and Practice of Physic." Vol. I; p. 597 *et seq.* J. W. Parker, London.

Weekly Wisdom

"Take heed to the limits of your capacity and you will arrive at knowledge of the truth."—Avicenna, 980-1036 A.D.

CLINICAL COMMUNICATION

Spurious Rodent Ulcer in the Cat

HAMILTON KIRK

Most small-animal practitioners are familiar with the appearance of rodent ulcer on the upper lip of the domestic cat. It is a lesion with a smooth, shiny, dry and slightly concave surface, with typical rolled-over edges, hard to the touch and increasing slowly in size. I say "upper lip" because that is where it usually appears, but it has been seen on the lower lip and rarely on other parts of the face.

Three weeks ago a cat was brought for treatment of what looked extremely like rodent ulcer of the anterior nares and nasal septum, the nostrils and part of the septum having already been eaten away. It resembled the appearance of a person with syphilitic lesions about the nose. The first step was to find somebody experienced in *x*-ray therapy to take the case in hand, as I understand this method is about 90 per cent. effective for such semi-malignant ulcers. I could find no such facility, but decided (on advice) to obtain a biopsy. The cat was nembutalised and a thin specimen of the ulcerous surface shaved off and submitted to a pathologist. His report was that the lesion was probably inflammatory, whereupon I painted it with tinct. iodi mitis. But later, noting that the cat seemed to have a chronic nasal catarrh with a fair amount of sniffing and mucous discharge, the opinion took shape that the mucous membrane had been scalded, just as continuous lachrymation will scald the face. There seemed no adequate explanation, however, for the loss of septum and other tissue. Treatment was then directed against catarrh by intranasal instillation of "Nasotone"* alternated with applications of mentholatum. This was salutary, and at the end of three weeks the ulcer was arrested, though still not completely healed, and the cat returned home.

The object of this note is to point out that some cases strongly suspected of being epidermoid carcinoma of low malignancy may not in fact have such a character.

* A solution of menthol, camphor, chlorbutol, ephedrine, cinnamon and eucalyptus in a base of liquid paraffin.

ABSTRACTS

[Parturition in the Mare. Wright, J. G. (1943.) *J. comp. Path.* **53**. 212-219. (4 tables.)]

By recording his observations on nine parturitions in eight Suffolk mares the author has in some measure remedied the deplorable lack of data on physiological parturition in the mare.

Preparturient signs are chiefly confined to mammary development with obvious hypertrophy from 30 to 14 days prior to foaling, particularly noticeable in the non-working mare. A wax-like secretion from the teats is taken as a reliable indication of impending parturition (48 to 9 hours). No changes were observed in the pelvic ligaments, vulva or vaginal secretion.

The first stage of labour was invariably associated with the onset of "patchy" sweating and a sub-normal temperature. Restlessness was not particularly noticeable during the early part of this stage but pain gradually increased with swishing of the tail, increased sweating, crouching and adopting, momentarily, an attitude of partial recumbency. This stage, of average duration two to four hours, culminated in rupture of the allanto-chorion and escape of allantoic fluid.

The onset of the second stage of labour, denoted either by straining or the presence of the amniotic sac at the vulva, was sudden, the mare immediately occupying a position of lateral recumbency with legs extended. A foetal digit quickly presented itself at the vulva. Straining efforts were at regular intervals with rest periods in between of three minutes' duration. The author noticed that one fore-foot was invariably 5 to 6 inches in front of the other until the head, neck and fore limbs were delivered, the inference being that entry of the foetus into the pelvic canal is facilitated by one elbow negotiating the pelvic inlet before the other. Wright also observed that the amnion ensheathes the vaginal tract during expulsion of the foetus, the latter making no direct contact with the vagina. The length of this second stage of labour varied from 9 to 70 minutes; in six cases it was 30 minutes or less. In all cases rupture of the umbilical cord did not take place until the foetus had been expelled. In one case the foal was expelled with its amniotic covering intact but generally rupture of the amnion took place earlier either through the weight of the foetus or by its extremities.

Expulsion of the foetal membranes and placenta occurred immediately after parturition in the case of one mare but here it is interesting to note that the second stage of labour occupied 70 minutes. The average time for expulsion was in the region of two to seven hours. In three cases the membranes were not expelled until 10½, 11 and 14 to 21 hours respectively. Posterior pituitary extract was administered to two mares without apparent effect. The author is of the opinion that too early interference when placental separation is not occurring naturally is possibly harmful. In four instances out of six sets of foetal membranes examined, the allanto-chorion was found to be inverted. From this observation it is concluded that placental separation generally begins at the apex of the gravid horn and rhythmical uterine contraction causes inversion.

In the nine cases cited the gestation period varied from 317 to 363 days. Parity made no difference but the five male foals tended to be carried longer than the females. Only four mares conceived first time.

C. F.

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[Entero-toxaemia in Feedlot Lambs in connection with an Outbreak of Coccidiosis. Marsh, H. O., and Tunnicliffe, E. A., (1944.) *J. Amer. vet. med. Ass.* **104.** 13.]

The authors record an outbreak of pulpy kidney disease due to *Cl. welchii*, Types D and A, in lambs from one to two months of age, occurring simultaneously with coccidiosis. As the former disease is closely associated with "good condition" and generally occurs between the sixth and ninth months of age in fattening lambs, the sudden onset in very young lambs associated with coccidiosis appeared to the authors to be of some importance. It seems that the latter disease creates suitable intestinal conditions for the growth of *Cl. welchii* and toxin production. The two diseases can of course be distinguished at *post-mortem* examination and, in some cases, prior to death coccidia can be detected in the faeces. On account of the suddenness of death coccidiosis may be overlooked.

N. S. B.

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[I.—The Fattening of Pigs on Swill Alone: A Municipal Enterprise. Lovatt, J., Worden, A. N., Pickup, J., and Brett, C. E. (1943.) *Empire J. exp. Agr.* **11.** 192; **II.—Kitchen Waste as an Alternative Foodstuff to Bran for Rabbits.** King Wilson, W. (1943.) *Harper Adams Util. Poult. J.* **28.** N.S. 2. April.]

I.—A description is given of a municipal pig-fattening scheme, in which pigs from 14 to 16 weeks old were reared to bacon weight (11 score) solely on cooked household and hotel waste food. The pigs employed were first cross Large White × Large Black and Large White × Wessex Saddleback, which proved most satisfactory for swill feeding. They were passed at two different centres and scrupulous attention was paid to hygiene and management, with regular veterinary supervision. Throughout the first two years of the scheme only one serious outbreak of disease (swine fever) occurred at one centre; following prompt slaughter and thorough disinfection the premises were again in commission after a few weeks, with no subsequent occurrence of the disease.

The quality of the bacon produced compared favourably with the war-time averages for all classes of pigs slaughtered at the regional factory, and the flavour was excellent although the fat tended to be rather soft. From this enterprise alone over 150 tons of pig meat were produced per annum with an annual profit to the borough of £2,250, or £2 15s. per pig fattened. The main features in the success of the scheme were the careful attention paid to management and hygiene; care in the collection and treatment of the swill; routine veterinary inspection, and selection of animals of suitable age, bred for fattening on swill which naturally varied seasonally in quality. Regular analyses showed the general high quality of the diet as confirmed by the satisfactory growth rate of the pigs.

The possibilities of continuance of such an enterprise after the war are discussed when some modification in the present system may be advisable in the form of employing a certain amount of balancer meal to offset the household waste.

II.—Processed kitchen waste, containing about 30 per cent. dry matter, was found to be suitable for replacing an equivalent dry weight of bran in the rations of rabbits for maintenance, growth and production. Although kitchen waste is a variable product, depending upon the season, and is liable to deteriorate and go mouldy in hot weather, rabbits on such a diet showed better condition, development, viability and live weight gains than on a diet of all bran. Bran with greenstuff alone is not a suitable food for young rabbits; additional concentrates are required for high production. On the other hand kitchen waste gives excellent results when fed to fattening animals, but an exclusive diet of this product is apt to give rise to digestive troubles, and should not be employed as the sole food to rabbits except to tide over short periods when other food supplies are in restricted supply.

A. E.

Royal College Centenary

Central Veterinary Society's Luncheon

The centenary of the Royal College of Veterinary Surgeons was celebrated by a luncheon at the Connaught Rooms, London, on March 30th, at which the Central Veterinary Society (Central Division, National Veterinary Medical Association) were the hosts. The chair was taken by the President, Dr. Tom Hare, who had on his right hand the President of the Royal College (Mr. Wm. Nairn) and on his left the President of the "National" (Major R. C. G. Hancock). A number of messages of congratulation were read from absent members; these included telegrams from Professor Share Jones—in which he expressed his indebtedness to his friends and colleagues of the "Central" for having "stood by the parent body in her hour of need"—and from the Chairman and Directors of Messrs. Harrison, Barber & Co., assembled in annual meeting.

Dr. Tom Hare: "Mr. President, Past-Presidents, Officers and Councillors of the Royal College of Veterinary Surgeons—the Central Veterinary Society, supported by the President and Officers of the N.V.M.A., are gathered to wish you many happy returns of your 100th birthday.

We rejoice that His Majesty has been graciously pleased to honour his College with a birthday present in the shape of the C.B.E. to the President, the father of our family. (Applause.) We wish to give you a little birthday present in token of our affection, gratitude, and loyalty. Like children all the world over, to find the wherewithal we ransacked the lumber room for bits and pieces long forgotten by our elders. We found, at least Jimmy found, a piece of the desk which belonged some 150 years ago to Principal Coleman. He also found the late Professor Penberthy's bloodstick, which is enclosed in a veterinary surgeon's instrument case. These relics have been fashioned by the craftsmanship of Hamilton Kirk into a President's gavel and stand, a mosaic of veterinary history and our modest gift, which I will invite you, Mr. President, to accept.

We hope you will not misinterpret our motive in offering you a tool, with which veterinary surgeons were wont to hit things. If, by chance, the bloodstick should serve to knock the cup from the hands of those who proffer you the hemlock, we should rejoice. But we of the Central Veterinary Society look upon the bloodstick as the symbol of our family's unity of purpose. For, as you will observe, Mr. President, it has no sides like the obverse and reverse of a medal.

During recent debates on veterinary education it has seemed to me that we were in some danger of becoming medal minded; one side reflecting the intelligence and independence of Athens, the reverse indelibly engraved with the ordered discipline of bureaucratic Rome. This is the old dilemma of freedom of thought and practice in conflict with the Poor Law principle of the regulated minimum. And I felt, as I followed those debates, that we had need among our spokesmen, of the shaggy-maned old lion to roar across the desert of our fruitless strife the inalienable truth that the way out of the dilemma was offered to us nearly two thousand years ago.

It is not the Greek way of the undisciplined individualist—it is not the Roman way of the careerist and jobber—it is the Christian way of giving one's whole self to a purpose. By that way the essential purpose of our veterinary family is revealed to the young aspirant to our ranks; it is to feel for and heal animal suffering.

And as we look along that way we see its triple guardians—our profession, our one portal, our parent body—standing as the triple spires of Lichfield silhouetted against the dawn, a work of men's

hands for the glory of God, a thing of beauty in itself, even more beautiful when illuminated by the Light of the World."

Mr. W. Nairn, President of the Royal College, in receiving the gift, expressed the cordial appreciation of his Council at this signal mark of regard and respect from a body which looked after the well-being of various aspects of the veterinary service. It was natural that the Central Society should be the first to take notice of the occasion of the centenary. The Society was almost part of the story of the Royal College. As President he was grateful to receive this beautiful instrument which had fulfilled other roles in the story of veterinary science and now would be put to new uses. He hoped that when the profession came to deliberate on other matters no less vital to it than those of the past, this instrument would be in the hands of those who would do their best to make sure that the decisions were sound, and when another centenary of the College came round the wisdom of those who had made decisions in these days would be admired and respected.

They must not forget to pay their respects to the men who worked for the Royal Charter a hundred years ago. That was the first movement that did anything to raise the position of their profession in the eyes of other people. Prior to that they had veterinary schools, one in London founded in 1791, and the other in Edinburgh founded in 1823. But these schools did not achieve the purpose with which they set out because they had no restraining hand guiding the standard of education. Each school had its own standard, and chaos was the result. Even after the date of the College charter that condition continued for many years, and there were differences of opinion which were to the great disadvantage of the profession. But the great debt to the men who obtained the charter must always be remembered.

The early part of this history of one hundred years showed the outstanding part which veterinary practitioners took in the development of the science. It was amazing how up to date were many of the operations carried out by practitioners in the early nineteenth century and how sound were the deductions made from them. Later there arose men of great eminence in veterinary science, among them Sir John M'Fadyean, a scientist whose reputation was world wide. He believed that veterinary science would play a greater part in the preventive medicine of the future. But in making progress they would be well advised to hold firmly to what had been proved in the past before too hurriedly adopting changes.

The profession was now awaiting the report of the Loveday Committee dealing with veterinary education. He was sure that the profession would wish the Royal College to be the foremost body in veterinary education, as well as having the control of professional discipline, and that it should endeavour to secure the elimination of unqualified practice. In these problems the Royal College would have large contentious matters to deal with, calling for the combined wisdom of all members of the Council, supported by every member of the profession, and when decisions were made he trusted that these would be wise and would command the respect of their successors in office a hundred years hence. He thanked Dr. Hare for his eloquent speech in presenting this instrument, which he could assure the Society would be cherished among the possessions of the College both for what it was and for what it symbolised.

The Chairman then presented to Mrs. Dunlop Martin the Victory Medal, which had been conferred on their late colleague and dear friend, George Dunlop Martin.

Mrs. Dunlop Martin, responding, said: "My daughter and I appreciate very deeply that you have invited us to be with you to-day and to receive the token for the Victory Medal awarded to my late husband. It is a great sorrow to us that he did not live to receive it personally, but we rejoice that he knew it was awarded him—for it gave him great pleasure and satisfaction when he was told you had so honoured him.

"You will understand I cannot say much on this occasion, nor is it needed—but my daughter and I do thank you, Mr. President and members of the Council, for your kind recognition of my husband's work in veterinary medicine: he always enjoyed your meetings and was so keenly interested in the work of the Society for the advances in veterinary science." (Applause.)

In presenting the medal to Dr. Bullock, the Chairman invited him to stand beside the President of the Royal College while a photograph was taken. "About 30 years ago," Dr. Hare continued, "when you had been some seven years in the service of the Royal College, you were photographed standing by the chair of the then President. That photograph hangs in our home in Red Lion Square. To-day you stand where you stood 30 odd years ago to receive from me the Victory Medal, the highest distinction in the gift of the Central Veterinary Society. The position you now occupy and its associations are the same, the occasion and the theme are different. Then you had been for seven years the Registrar, the nurse to our large family, to-day you are our very much loved and respected 'nannie.' (Laughter and applause.) We are grateful for your eminence in law and literature; for all you have done for us we thank you, and we thank Mrs. Bullock."

Dr. Bullock said that this presentation had come to him at a time when he had hoped to have been on the retired list, rusticating somewhere on the peaceful countryside. The circumstances of war and their own wishes had kept him in office. He could understand why they had awarded the Victory Medal to his friend Dunlop Martin; he was one of their past Presidents, an assiduous attendant at all their meetings, and a gentleman in every sense of the word. But when it was decided that they were to give a medal to him, he could not believe it was lawful. He was not a qualified practitioner, and they were taking the risk that some day he might set up in practice with the title "Honorary Fellow of the Central Veterinary Society: Victory Medallist." (Laughter.)

It might interest those present to know that there were two matters historically worthy of special note in connection with that meeting. The Chairman, in his peroration, had referred to the triple spires of Lichfield Cathedral. Lichfield was in his own county of Staffordshire, and he looked back with pleasure and pride to the fact that

Presentation to the President, R.C.V.S.

Dr. Bullock Receives the "Victory" Medal

it was a Staffordshire man who first thought of obtaining the Charter for the Royal College of Veterinary Surgeons. It was Thomas Mayer, of Newcastle-under-Lyme, and also his son, Walton Mayer, who were the prime movers in that endeavour; they spent their time and money for four years in trying to secure a charter from Her Majesty, and eventually succeeded. And now at the end of the century another Staffordshire man was Secretary.

Another interesting point was that the place at which they met was classical veterinary ground. It was on this very spot in London 104 years ago that the first meetings of the Committee of veterinary surgeons were held to discuss the preparation of a charter, for this, where the Connaught Rooms now stood, was the site of the old Freemasons' Tavern. Not only so, but the predecessor of this Society, the London Veterinary Medical Society, used to hold its annual meetings on this same spot. He remembered reading that at the first annual meeting of the Royal College of Veterinary Surgeons in 1844 they came to this place, and the members of the College sat down to a "solid and substantial repast." There were 16 toasts and 32 speeches! John Turner, of Croydon, at the age of 85, sang a song. William Dick, from Edinburgh, gave them "John Anderson My Jo, John." That meeting lasted from six o'clock in the evening until eleven, when it broke up, and everyone went home very merry. (Laughter.)

He thought it was interesting to record those two items of history.

In a few words he desired to thank them for the gift they had made to him. He could hardly express in words the gratitude he felt, but "I were little happy if I could say how much!" He took it as a special honour that they should have made him this gift in the presence of the President and Council of the College because it showed them what the Central Veterinary Society thought of him, whatever they might think of him themselves! (Laughter.) He would add this last word, that he had never sought honours for himself, he had always regarded himself as being the servant of the profession, in whose guardianship was the honour and dignity of the R.C.V.S.

Dr. Bullock concluded by saying:

"If it be a sin to covet honour—for the profession, whose servant I am,
I am the most offending soul alive."

The Chairman said that there could not be 32 speeches on that occasion, as the company were already due at the meeting in Kingsway Hall, when they would receive addresses on "Eminent veterinary clinicians of the past."

Mr. Steele-Bodger gave the toast of "The Chairman," which was cordially pledged, and the function terminated.

Handbook on Laboratory Animals: Information Requested from Veterinarians

The Universities Federation for Animal Welfare (U.F.A.W.), which recently presented copies of Professor J. G. Wright's *Veterinary Anaesthesia* to many laboratories in this country and elsewhere, is preparing for publication a handbook on the care and management of laboratory animals. The work, which will be concise and practical in nature, will deal with the ferret, rat, mouse, rabbit, guinea-pig, vole, hamster, cotton rat, hedgehog, fowl, pigeon, canary and a few amphibia and fish, as well as with animal houses and their pests, the law and practice of animal experimentation, the training of laboratory assistants, and the use of statistical methods.

The editing of the book will be in veterinary hands, and there are several veterinarians among the authors, who are drawn from the Lister Institute of Preventive Medicine, the London School of Hygiene and Tropical Medicine, the Ministry of Agriculture and Fisheries (both Veterinary Laboratory, Weybridge, and Fisheries Research Section), the Agricultural Research Council Field Station (Compton), the Harper Adams Agricultural College, the Bureau of Animal Population (Oxford), and various hospital laboratories and university departments. Collaboration has been received also from workers at the National Institute for Medical Research, who have kindly offered to examine the manuscript, and several eminent individual authorities have likewise agreed to examine sections of the work prior to publication. The N.V.M.A. has offered all possible support.

In order to obtain supplementary information from as many sources as possible, a questionnaire has been circulated to all holders of a Home Office licence for animal experimentation. This questionnaire, copies of which may be obtained from U.F.A.W., lists all the points upon which information for the different species is required. The replies will be passed on to those responsible for the different chapters.

It is felt that many veterinarians who are not laboratory workers will have information to contribute. U.F.A.W. will be very glad to receive any comments or more detailed information, which should be forwarded to the Secretary at 284, Regent's Park Road, London, N.3.

IN PARLIAMENT

State Support for Scientific Research

The House of Commons, on Wednesday of last week, debated a motion stressing the vital part which research and science and their effective application can play in reconstruction and the promotion of national prosperity, and urging the declaration of a "bold and generous" Government policy of financial assistance.

Sir Granville Gibson, moving, pleaded for the planned application of science to industry. The pure scientist must be "given his head" to go wherever inspiration led him. Those industries and countries which made the fullest use of scientific discoveries would be those who came to the top. The Department of Scientific and Industrial Research had done marvellously good work in assisting industry, but whereas in 1924 the Department had contributed £100,000 compared with the £113,000 contributed through the research associations of industry, in 1938 the subscriptions from industry had risen to £326,000, but those of the Department to only £177,000.

Against the £5,500,000 spent by industry in this country on research, the United States spent ten times that amount and had 70,000 expert chemists, compared with our 7,000. In post-war years we should require the fullest assistance of scientists allied to technical skill, of which our industry had the finest in the world, to win export markets. If taxation was to remain high funds must be given in increasingly large measure by the Government for research, and he was firmly convinced that expenditure on research buildings and their equipment should be regarded as a trading expense charged against our revenue.

An expenditure of anything up to an additional £15,000,000 on research would be an investment for the country's future and would bring in a fine dividend. Undoubtedly the staffs of the research and scientific departments of our colleges were far too small; under the new Education Bill special attention should be given to encouraging young people to take up a scientific career. Greater use of research would ensure more employment, and by it we should have the birth of new products and higher quality goods. All parts of the Empire must be encouraged to take part in our research schemes.

Animal Disease Research

Mr. Salt said that scientists had been used to a far greater extent in this war than in the last. The country could look forward with some confidence to winning prosperity in the days of peace with the aid of science. It was said that by spending £2,000,000 a year on the diseases of animals we should be able to add to the milk and meat supply of this country no less than £20,000,000 and that, he thought, to a great extent, held good right through the field of agriculture. He had the advantage of meeting the late Professor Topley, whose death was so much lamented. He met him only a few days before he died, and had a long interview with him. He particularly asked him, if he ever got the opportunity, to remind the Government that, following the last war, when the Geddes Axe came into operation, it unfortunately included in its first efforts to economise scientific workers in agriculture. Professor Topley said that the effect of that was being felt even to-day, because graduates from our universities hesitated to go into that particular side of research. The number of scientific workers should be doubled, which would mean enlarging the universities and technical schools, possibly giving some of the latter university status. Some £12,000,000 would be needed annually in the next five years for capital expenditure, but he thought the Government should make a token payment immediately of £1,000,000 so that those in charge of the universities could make the necessary plans for extending their work.

Sir E. Shepperson, while fully supporting the plea for aid for research, appealed particularly on behalf of the greatest and most important industry in Britain—namely, agriculture. There were great possibilities of increased production. Scientific research could help to prevent bacteriological diseases and the attack on our crops by insect pests. Our agricultural colleges had done a great deal to increase production in this country. The nutriment values of our food had been increased and we knew more about vitamins now. There were still great opportunities open for more scientific research and education.

Mr. Snadden said that because of the long years of depression through which the industry had passed little had been done in the sphere of agricultural research. The three main diseases of farm animals, tuberculosis, mastitis and contagious abortion, for example, still remained the deadly menace of the dairy industry. Only three per cent. of milk producers in England and Wales turned out tuberculin tested milk. In Scotland

the figure was a little bit better, 25 per cent. Of the total milk produced in England and Wales, only six per cent. was tuberculin tested. In Scotland it was 33 per cent. Such figures indicated the enormity of the problem ahead of us in wiping out disease from our farm stock. He did not think this was due to any inactivity or any lack of skill on the part of our research workers. He thought it was due to the long years of depression through which the agricultural industry had passed, arising from successive policies of restriction followed in this country and elsewhere. It seemed to him that research must be stifled at birth, that it could not possibly progress, under conditions of frustration caused by restriction, any more than agriculture itself could. He hoped, as he thought the right hon. Gentleman did too, that we should embark in the future on a world policy of expansion of food production, and that such a policy would take the place of the false pre-war economy of restriction. There should be no shelving of recognised research organisations. Scottish tuberculin tested herd owners attempted to approach the recognised Scottish research body, the new Advisory Council, on the subject of the Weybridge tuberculin test, but were refused a deputation on the ground that the matter was outside the scope of the new Council's activities. The Department of Agriculture in Scotland had no responsibility whatever for the tested herds scheme. That seemed to be an anomaly. Apparently official results had not materialised from a conference of the Scottish herd owners with the Secretary for Scotland, although very great help was given by the Secretary for State. They needed more practical men on the Agricultural Research Council. It would be idle to deny that up to date we had done anything more than scratch the surface of the problem of animal disease, and he would appeal to the Government to recognise that the time was ripe to go full steam ahead with this job of getting tuberculosis and mastitis, to mention only two of our most deadly diseases, under really effective control. The first blow in the battle against tuberculosis was struck by those pioneers who promoted tubercle-free milk. No one could say, at least he should be surprised if anyone would contradict him when he said, that the battle had not been carried to anything like its logical conclusion. Up to date only the ground has been cleared. We had not even yet attacked the main position of the enemy, so that he concluded that an important place in our post-war agricultural policy must be given to a mass attack by all arms, agriculture, medicine, research and veterinary science, against these two fell diseases and others, and that it would only be through a combined operation that the desired result would be achieved, the effective control and final elimination of the main diseases which were the curse, and he was sorry to say, the disgrace, of an otherwise great livestock industry. He hoped that more money would be forthcoming. He hoped also that they might see more co-operation in the financial sphere from the agricultural industry itself. He saw no reason why the agricultural industry should not contribute directly to research. He felt that to-day we were reaching the stage where the farmer really wanted to "make a job" of this business of disease, and he was certain that he would come in and play his part, even in the financial sphere.

Major York said that during the last few years agriculture had been related to the war necessity and research had been sidetracked. Now there was again a possibility of a live agricultural research policy. There should be research stations within at least 50 miles of every farm.

Dr. Haden Guest hoped that the Scientific Advisory Committee of the War Cabinet would be permanent, and that the Government would ask that body to make a plan for the development of scientific research over a ten-year period.

Mr. Attlee, replying, said that the motion was in full accord with the policy which the Government were following and which it was desired should be followed after the war. He spoke warmly of the achievements of British scientists, who in the war had effectually pitted their brains against those of enemy scientists. He claimed that, while other countries had larger bodies of scientists and devoted more money to science, our scientists had fully held their own in quality. Mr. Attlee indicated that the Government would give more assistance towards scientific research, but he asked that this should be backed by readiness on the part of industry to use the results. The nation, he said, must also become more aware of the importance of science. The Government recognised that there would have to be a much greater expenditure on fundamental research and scientific teaching at the universities, and an adequate supply of research workers must be ensured after the war. It would be rather a futile thing to be passing a great Education Bill and to neglect the universities.

In view of these assurances, and of the spirit of the reply, Sir Granville Gibson withdrew his motion, which was formally an amendment to the motion that the House should go into Committee of Supply on Civil Estimates.

QUESTIONS

Veterinary Education

On Thursday of last week Sir G. Jeffreys asked the Minister of Agriculture whether he is satisfied that a sufficient number of veterinary surgeons will be produced under the existing machinery in order to provide sufficient qualified persons to maintain the health of livestock in this country in the post-war period; and what steps in particular he has taken or proposes to take to assist and develop the work being undertaken by the Veterinary Educational Trust in this direction.

Mr. Hudson: My right hon. Friend the Secretary of State for Scotland and I asked the Committee on Veterinary Education in January, 1943, to resume their sittings and to review the recommendations made in their report published in 1938. The Committee have now made their second report, which will be presented as a Command Paper in the course of the next few days.* While the Government views with sympathy the activities of the Veterinary Educational Trust, this is an independent organisation.

Sir G. Jeffreys: Is it not a fact that quite recently demands have been made for veterinary practitioners to join the Royal Army Veterinary Corps? Will this not cause a shortage in some districts?

Mr. Hudson: Yes, I am afraid there is a serious shortage of veterinary surgeons, and a great deal of development and valuable new projects are being held up because of that lack. It is for that reason that my right hon. Friend and I asked the Committee to sit again and review their recommendations. I think my hon. and gallant Friend will find great interest in their report when it is published.

* The Loveday Committee's report was laid before Parliament on the following day and the summary of principal conclusions and recommendations was published in our issue of last week.

NOTES AND NEWS

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events

Apr. 29th.—Meeting of the Society of Women Veterinary Surgeons, in London, 2 p.m.
May 3rd.—Special Meeting of the Editorial Committee, N.V.M.A., at 36, Gordon Square, W.C.1, 2.30 p.m.
May 3rd.—Special Meeting of the North of England Division, N.V.M.A., at Newcastle-upon-Tyne, 5.30 p.m.
May 4th.—Meeting of the Central Veterinary Society, Conway Hall, W.C.1, 2 p.m.
May 9th.—**R.C.V.S. Council Election.** Last date for receipt of nominations.
May 10th.—Meeting of the Editorial Committee, N.V.M.A., at 36, Gordon Square, W.C.1, 2.30 p.m.
May 11th.—Meeting of the South-Eastern Division, N.V.M.A., at Tonbridge, 2.30 p.m.
May 16th.—Spring Meeting of the Eastern Counties Division, N.V.M.A., at Cambridge, 2 p.m.
May 22nd.—R.C.V.S. Council Election. Voting papers issued.
May 30th.—R.C.V.S. Council Election. Last day for receipt of voting papers.
June 6th.—**R.C.V.S. Annual General Meeting.**
June 7th.—R.C.V.S. Committee Meetings.
June 8th.—**R.C.V.S. Council Meetings.**
June 27th.—R.C.V.S. Examinations begin (provisional date).

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R.C.V.S. Council Election

Since our last notification of additions to the list of candidates for the forthcoming election to Council, R.C.V.S., the Secretary of the Royal College has received the nomination of Gwilym Owen Davies, D.V.Sc., M.R.C.V.S., D.V.H., of the Department of Veterinary Pathology, University of Liverpool.

The election addresses of candidates will be published in our issue of May 20th and they are requested to note that the closing date for the receipt of such addresses, which are limited to 250 words, is **Monday, May 8th.**

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Scheme for the Control of Certain Diseases of Dairy Cows

It is understood that cases have occurred where undertakings under the above Scheme have been renewed without the Ministry of Agriculture and Fisheries being notified.

It is the desire of the Ministry that when an existing 'contract' expires and the farmer wishes to continue, a new form of undertaking shall be completed in all cases. The detachable part of the

form should then be sent to the Ministry of Agriculture and Fisheries, 99, Gresham Street (1st Floor), London, E.C.2, in order that correct records may be kept.

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Johne's Disease

The Veterinary Laboratory, Ministry of Agriculture, Weybridge, wishes to test under field conditions a vaccine against Johne's disease. It is proposed to restrict vaccination for the present to a small number of self-contained herds that are heavily infected with the disease; attested or T.T. herds will not be included.

Veterinary surgeons wishing to assist in testing the vaccine on herds of this description can have further particulars on application to the Laboratory.

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Sale of Biological Products

Our readers will be glad to know that firms supplying veterinary products are showing an increasing readiness to meet the Association's wishes in restricting to members of the veterinary profession the sale of certain of their products. We recently made reference to the fact that the British Drug Houses had placed this restriction upon the sale of a number of their glandular products, and we now have pleasure in announcing that Messrs. Evans Sons Lescher & Webb, Ltd., have intimated that they are restricting to members of the profession the sale of practically all their biological products, as follows:—

Abortion Vaccine (L.), Abortion Vaccine K., Abortion Vaccine A.V. (Strain 19), Anthrax Vaccine, Autogenous Vaccines, Blackleg Vaccine, Blackleg F.W.C. (Cattle), Haemorrhagic Septicaemia Serum, Haemorrhagic Septicaemia Vaccine, Mallein Hypodermic, Mastitis Pyogenes Vaccine K.W.C., Swine Erysipelas Serum, Swine Erysipelas Vaccine (L.), Tetanus Antitoxin Veterinary, Tetanus Toxoid, Tuberculin, Synthetic Medium Tuberculin, White Scour Vaccine, Bibap, Coletyl, Gonadotrophin M.S. (Evans), Pirevan, Pituitary Posterior Lobe Extract (Evans), Retaquin, Stilboestrol Dipropionate Veterinary (Evans).

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Leslie Jordan

AN APPRECIATION

At the early age of 40 years the profession, as announced in your issue of April 22nd, has lost another of its well-known members. In Leslie Jordan there has been removed from our midst a young man who appeared to enjoy good health and one who so conducted his life as to profit by healthy and vigorous habits and outdoor pursuits.

Jordan qualified at the Royal Veterinary College in 1926, where he was well known to his contemporaries as a student of outstanding ability. His industry and enthusiasm, which evoked the genuine admiration of his fellow students, gained him distinction in all examinations and finally the FitzWygram Prize. After qualifying he assisted Mr. G. P. Male, of Reading, for a time and then gained experience in research work under Professor Buxton at Cambridge. When the Medical Research Council promoted an experiment at the Hannah Dairy Research Institute to determine the extent to which tuberculosis could be eradicated from a group of dairy herds, there was, therefore, no more fitting choice of a man to carry out the work than Jordan. The marked success achieved in this now widely quoted investigation was attributable mainly to his personal influence and to the powers of persuasion and encouragement which he exercised in his contacts with the farmers in Ayrshire, who in turn regarded him not only with respect, but with affection. His fund of pleasing anecdote, together with his wide practical knowledge, seemed to be a sure way to winning their complete confidence.

In 1933 he accepted the post of Chief Veterinary Officer to the West Sussex County Council and later was transferred to the Headquarters Staff of the Animal Health Division. For the past 18 months he had been seconded to the Agricultural Research Council to supervise a field trial in which the immunising value of B C G was being tested.

His services to the "National" will be long remembered by those who attended the Bournemouth Congress in 1937. There he fulfilled the arduous post of local secretary with characteristic energy and, with Professor Dalling, helped to mark this as an outstanding occasion in the history of our meetings. The Sussex Division owes its origination to him and he faithfully gave his services as its first secretary.

No appreciation of Jordan would be complete without referring to his great love of outdoor pursuits. The pleasures of the countryside gave him all the recreation he desired and no one happier could be found than Jordan accompanied by his gun and dog or with fishing rod in hand. He was an excellent companion and to many of us his untimely death seems an irreparable loss.

S. J. E.

Dr. Jordan married in 1928 Kathleen, daughter of Mr. Nicol, of Leicester, and had three children. To them and to his widow we extend our heartfelt sympathy in their sad bereavement.

The Funeral

The funeral took place at Reading Cemetery on Wednesday, April 19th. Among the members of the profession assembled to pay their last tribute were: Professor Dalling (representing the Agricultural Research Council and the staff of the Ministry of Agriculture Laboratory), Dr. R. Lovell (representing Professor Buxton and the staff of the Royal Veterinary College), Messrs. R. E. Glover, R. M. Davidson (representing the Ministry of Agriculture Animal Health Division), W. A. Milligan (representing the Animal Health Division, Reading, and the Farriers' Union), H. S. Caldwell (representing the Sussex Division, N.V.M.A.), I. R. Coleman (representing Mr. and Mrs. G. P. Male), P. Scott-Dunn (representing his father, also Professor McCunn and Countess Howe), and S. J. Edwards (representing Dr. W. S. Gordon and the staff of the Field Station, Compton).

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PERSONAL

Marriage.—HARRIES—TWIDDY.—On Easter Monday, at St. Mary's, Attleborough, Denys Crofts Harries, M.R.C.V.S., of Fakenham, second son of Mr. and Mrs. W. R. Harries, of Burry Port, to Nance (Nan) Mary Twiddy, only daughter of Mr. and Mrs. L. Twiddy, of Attleborough, Norfolk.

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ESSENTIAL UNITY OF PURE AND APPLIED SCIENCE

Sir Edward Appleton, F.R.S., in a lecture before Manchester Chamber of Commerce in the Houldsworth Hall, Manchester, on the subject of fundamental scientific research and its practical importance, appealed for the breaking down of the distinction between what is called pure and applied research.

To some extremists, he said, applied research no longer deserved the name of science and was regarded as a distinctly lower form of occupation than any scientific enquiry of less immediate utility. On the other hand there were those who claimed that science was merely a social servant and that it should be pursued only for practical ends. For them the balance of scientific work must be drawn in terms of social utility. The truth was that science was a single field, and an advance in one section of it very often had the most profound repercussion on the rest of it. There were scientific workers to whom discoveries were ends in themselves; there were others who created new knowledge or utilised existing knowledge for practical purposes. Using the same scientific method, they all belonged to the same family and their efforts were not antagonistic but supplementary.

Nor was it profitable to attempt to decide, as people had tried to do, which was the more important, a great discovery in pure science or a great discovery in applied science; whether, for example, Einstein's formulation of the theory of relativity or the discovery of penicillin was the more important to mankind. Einstein's theory, like other great generalisations of the past, was epoch-making because of its unifying sweep and its wide theoretical implications. Once established, it remained as a rung in the ladder of progress from which higher steps were possible. Yet on the other hand penicillin was already saving valuable lives and would save countless more, including, perhaps, some of those very scientists whose work would be based on that of Einstein's. So who could judge?

But within the present century, owing to the impact of many scientific discoveries in our practical life, the general public had become so accustomed to the enjoyments of the fruits of science that there was a great danger lest it should regard the scientist as a servant whose task was solely to produce a succession of discoveries of immediate use to industry or directly to the individual member of the community. Yet the fact was that most of these modern developments had their origin in purely scientific work conducted with no thought of utility. Moreover, most of this work was of British origin.

We might confidently expect to be entering an era in which the pursuit of science would be receiving increasing attention and recognition. There would, he felt sure, be great developments in industrial research and technology, but it was also necessary to ensure that there should continue to be in this country many active research groups whose scientific work was that of free enquiry and the extension of man's knowledge of nature. History had proved that this was one of the surest ways to a harvest of practical usefulness. If the tree were to continue to bear fruit, it was necessary to ensure that there was healthy growth in its roots.

* * * * *

MINERAL CONTENT OF PLANTS AND FERTILISERS

The depletion of soil of its mineral elements by continuous cropping is reflected in a corresponding depletion of livestock forage and the increasing need of supplementing livestock feeds with calcium, phosphorus and trace minerals such as iron, iodine and copper. In the effort to balance forage rations in the present programme

of increasing food poundage, the phosphorus requirement has come into the foreground through the unusual amounts of fluorine which rock phosphate sometimes contains, unrecognised in the making of commercial feeds and mineral supplements. In these studies, interest has been aroused in contamination of forage itself from fluorine absorbed by plants grown on soil treated with commercial fertiliser containing rock phosphate. Although fluorine in fertilisers passes quickly into the soil, sweet clover, red clover and Sudan grass do not absorb it in harmful amounts.—*Indust. Chem. and Eng.*

* * * * *

In a recent Army Order it is announced that the Army authorities have decided to grant the King's Commission to those who (1) have obtained the degree of B.V.Sc. of the Madras University; or (2) have qualified as a Diplomate of the Madras Veterinary College after a four years' course; or (3) have qualified as a Licentiate of the Punjab Veterinary College after a four years' course.

CORRESPONDENCE

The views expressed in letters addressed to the Editor represent the personal views of the writer only and must not be taken as expressing the opinion or having received the approval of the N.V.M.A.

Letters to the Editor should reach the Office not later than by the first post on Monday morning for insertion in following Saturday's issue.

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PROGRESS IN VETERINARY SCIENCE: A TRIBUTE

Sir,—Much progress has been made in veterinary science during the past 20 years. The general practitioner is among those who have benefited greatly by recent discoveries, and I am sure we all realise this fact and are justly proud of it.

In the course of my daily work I am reminded of two of these, the importance of which seems to me to be outstanding. I refer to the discovery of the cause of milk fever in dairy cows and the elaboration of a rational and efficient treatment by Professor Russell Greig and Dr. Dryerre; and secondly to the splendid work carried out in the field of pregnancy diagnosis and infertility in the bovine by a number of men, especially G. N. Gould, S. L. Hignett and H. W. Steele-Bodger.

Our indebtedness to these men is beyond measure and we are justly proud of their achievements. We share the benefits of their skill and labours. On the scroll of honour and fame their names will endure, and in the minds and hearts of their colleagues there will always be a deep and abiding gratitude.

I recall how many of these men left their homes and practices and journeyed for weeks on end to impart to us their special knowledge of the technique and treatment of these conditions.

The general practitioner has thus become much more efficient in this sphere. Speaking for myself, I consider I have been privileged to do more beneficial work in the past five years than I was able to accomplish in the previous 20.

Many men have received titles and wealth for services far less beneficial to mankind than these mentioned.

I know this is but a poor tribute, but I often wonder if we show our gratitude in a sufficiently tangible form. It behoves us never to weary in acknowledgment. Only thus can we help to sustain in their most unselfish labours these indefatigable workers, by whose skill and endeavour such invaluable results have been obtained.

Yours faithfully,

Wood Burcote, Towcester. W. E. Blackwell.

April 17th, 1944.

* * * * *

RECRUITMENT REQUIREMENTS OF THE VETERINARY PROFESSION

Sir,—Surely it amounts only to guessing to begin even to estimate for any job of work until its extent is known. Further, it must be unwise to start making concessions until the value of that offered in return has been carefully scrutinised.

Two statements which I made in the past have since proved correct—at least they have been endorsed. The first one is on page 64 of *The Veterinary Record* dated January 14th, 1939: "Agriculture is the most neglected of all our industries—although by far the most important, as coming events will show." The second is on page 926 of *The Veterinary Record* dated July 29th, 1939: "It will be in his ability in the field of preventive medicine that the veterinary surgeon can best prove the value of his profession to the public." I might now add to this statement, that in the end it will prove the effective, indeed the only, way in which the charlatan can be eliminated.

I have never disputed the obvious fact that we want more members in our profession; but I have always questioned, and shall continue to do so, the number often asserted, until the value of the *x* factors indicated at the start of this letter is known, at any rate to me. In this practice I have had to restrict the number of undertakings under the survey scheme owing to the shortage of staff necessary to carry out the work. Without any trouble the number could be doubled if I had the staff.

The recent letter from Mr. J. L. Stewart is still further argument in favour of the retention of our existing system of entry, and merely pleads for more post-graduate education with, if possible, more post-graduate degrees. Nobody will deny that the necessary knowledge, for those whose career will be in the field of research, cannot be obtained in the pre-graduate training, and I do not see how it could be, even if certain subjects could usefully be transferred to the Educational Certificate demanded before registering to study, in place of others which, to me at any rate, seem superfluous.

The livestock industry is the cornerstone of national welfare, and the veterinary profession is its greatest safeguard. Every opportunity should be seized to secure collaboration and co-operation that may be offered us, so long as our existing integrity is in no way impaired.

Yours faithfully,

"Rothiemurchus," J. F. D. Tutt.
St. Cross, Winchester.

DISEASES OF ANIMALS ACTS, 1894 TO 1937, AND AGRICULTURE ACT, 1937 (PART IV).

Summary of Returns of Confirmed Outbreaks of Scheduled (Notifiable) Diseases

Period	Anthrax	Foot-and-mouth	Parasitic Mange*	Sheep Scab	Swine Fever
Mar. 16th to 31st, 1944 ...	9	2	1	6	30
Corresponding period in—					
1943 ...	15	—	1	11	36
1942 ...	14	—	10	4	23
1941 ...	24	61	1	13	48
Total Jan. 1st to Mar. 31, 1944	63	15	5	56	152
Corresponding period in—					
1943 ...	91	10	4	85	139
1942 ...	81	11	23	91	110
1941 ..	136	176	6	92	554

Note.—The figures for the current year are approximate only.
* Excluding outbreaks in Army Horses.

Tuberculosis (Attested Herds) Schemes

The number of Attested Herds, *i.e.*, herds officially certified as free from Tuberculosis as at January 31st, 1944, was as follows:—

England	Wales	Scotland	Total (Great Britain)
4,028	8,588	3,569	16,185

Department of Agriculture (Veterinary Section) Irish Free State

Return of Total Numbers of Confirmed Outbreaks of Diseases

Period	Anthrax	Foot-and-mouth	Parasitic Mange	Sheep Scab	Swine Fever
Total Jan. 1st to Dec. 31st, 1943 ...	—	—	—	206	—
Corresponding period in—					
1942 ...	—	—	—	114	—
1941 ...	1	556	1	157	—
1940 ...	2	—	1	177	—

Bovine Tuberculosis

For the twelve months ended December 31st, 1943, there were 831 outbreaks and 831 animals declared affected.

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